

What is claimed is:

- 1 1. A method for dynamically reconfiguring a proxy server
2 network to deliver content by dynamically selling extra
3 capacity, comprising the steps of:
4 determining the unused capacity on a proxy server
5 network for a period of time;
6 selling the said unused capacity for a specified
7 period of time to web sites or other service providers
8 which need the additional capacity;
9 using said unused capacity to serve requests to the
10 said purchaser purchasing the extra capacity for said
11 period of time.
- 1 2. The method of claim 1, wherein the selling method of
2 the unused capacity can be through market-based mechanisms.
- 1 3. The method of claim 1, comprising the additional step
2 of providing a controller to monitor and control the
3 traffic from the purchaser to be within the limit of the
4 capacity purchased.

1 4. The method of claim 3, wherein said controller uses a
2 domain name server based approach wherein a domain name
3 server performs the name to address mapping for assigning
4 the request to the proxy servers.

1 5. The method of claim 4, wherein the said domain name
2 server based approach makes the domain name server of the
3 proxy network the primary domain name server, which is the
4 only domain name server that can assign names to the proxy
5 servers.

1 6. The method of claim 5, wherein said domain name server
2 based approach further comprises the steps of:

3 the domain name server of the purchaser World Wide Web
4 site routing the name to address map of said purchaser
5 World Wide Web site to said domain name server of the proxy
6 network; and

7 said primary domain name server mapping a fraction of
8 the received mapping requests to servers in the proxy
9 network based on the amount of unused capacity purchased.

Express Mail Label EF099149036US

1 10. The method of claim 9, comprising the additional step
2 of providing a controller to monitor and control the
3 traffic from the purchaser to the proxy server network.

1 11. The method of claim 10, wherein said controller uses a
2 domain name server based approach wherein a domain name
3 server performs the name to address mapping for assigning
4 the request to the proxy servers.

1 12. The method of claim 11, wherein the said domain name
2 server based approach makes the domain name server of the
3 proxy network the primary domain name server, which is the
4 only domain name server that can assign names to the proxy
5 servers.

1 13. The method of claim 12, wherein said domain name
2 server based approach comprises the steps of:
3 the domain name server of the purchaser World Wide Web
4 site routing the name to address map of said purchaser
5 World Wide Web site to said domain name server of the proxy
6 network; and

Express Mail Label EF099149036US

11 object requests served does not use more proxy server
12 capacity than was purchased.

1 21. The method of claim 20, wherein the remaining object
2 requests which were not served by the proxy server are
3 returned to said domain name server of the purchaser World
4 Wide Web site to be served by one of the servers of the
5 purchaser's World Wide Web site.

1 22. The method of claim 20, wherein the remaining object
2 requests which were not served by the proxy server are
3 assigned to servers in the purchaser World Wide Web site
4 using an assignment algorithm provided by said domain name
5 server of the purchaser World Wide Web site.

1 23. The method of claim 5, wherein said controller sets
2 the fraction of requests to be served by the proxy network,
3 comprising the steps of:
4 setting an initial value based on an estimate from the
5 purchaser World Wide Web site on the fraction of total
6 requests needed to be routed to the proxy servers;

7 monitoring the actual number of World Wide Web object
8 requests served by the proxy servers;
9 adjusting the fraction of World Wide Web object
10 requests served so that the actual number of World Wide Web
11 object requests served does not use more proxy server
12 capacity than was purchased.

1 24. The method of claim 23, wherein the remaining object
2 requests which were not served by the proxy server are
3 returned to said domain name server of the purchaser World
4 Wide Web site to be served by one of the servers of the
5 purchaser's World Wide Web site.

1 25. The method of claim 23, wherein the remaining object
2 requests which were not served by the proxy server are
3 assigned to servers in the purchaser World Wide Web site
4 using an assignment algorithm provided by said domain name
5 server of the purchaser World Wide Web site.

1 26. Computer executable software code stored on a computer
2 readable medium, the code for dynamically reconfiguring a

3 proxy server network to deliver content by dynamically
4 selling extra capacity, comprising:
5 code to determine the unused capacity on a proxy
6 server network for a period of time;
7 code to sell the said unused capacity for a specified
8 period of time to web sites or other service providers
9 which need the additional capacity;
10 code to use said unused capacity to serve requests to
11 the said purchaser purchasing the extra capacity for said
12 period of time.

1 27. The computer executable code of claim 26 further
2 comprising code to sell the unused capacity through market-
3 based mechanisms.

1 28. The computer executable code of claim 27 further
2 comprising code to monitor and control the traffic from the
3 purchaser to be within the limit of the capacity purchased.

1 29. The computer executable code of claim 28 further
2 comprising code to use a domain name server based approach

3 wherein a domain name server performs the name to address
4 mapping for assigning the request to the proxy servers.

1 30. The computer executable code of claim 29 further
2 comprising code to make the domain name server of the proxy
3 network the primary domain name server, which is the only
4 domain name server that can assign names to the proxy
5 servers.

1 31. The computer executable code of claim 30 further
2 comprising:
3 code to make the domain name server of the purchaser
4 World Wide Web site route the name to address map of said
5 purchaser World Wide Web site to said domain name server of
6 the proxy network; and

7 code to make the primary domain name server map a
8 fraction of the received mapping requests to servers in the
9 proxy network based on the amount of unused capacity
10 purchased.

1 32. A computer system for dynamically reconfiguring a
2 proxy server network to deliver content by dynamically
3 selling extra capacity, comprising:
4 a memory having at least one region for storing
5 computer executable program code; and
6 a processor for executing the program code stored in
7 memory, wherein the program code includes:
8 code to determine the unused capacity on a proxy
9 server network for a period of time;
10 code to sell the said unused capacity for a specified
11 period of time to web sites or other service providers
12 which need the additional capacity;
13 code to use said unused capacity to serve requests to
14 the said purchaser purchasing the extra capacity for said
15 period of time.

1 33. The computer system of claim 32 further comprising
2 code stored in memory to sell the unused capacity through
3 market-based mechanisms.

1 34. The computer system of claim 33 further comprising
2 code stored in memory to monitor and control the traffic

3 from the purchaser to be within the limit of the capacity
4 purchased.

1 35. The computer system of claim 34 further comprising
2 code stored in memory to use a domain name server based
3 approach wherein a domain name server performs the name to
4 address mapping for assigning the request to the proxy
5 servers.

1 36. The computer system of claim 35 further comprising
2 code stored in memory to make the domain name server of the
3 proxy network the primary domain name server, which is the
4 only domain name server that can assign names to the proxy
5 servers.

1 37. The computer system of claim 36 further comprising:
2 code stored in memory to make the domain name server
3 of the purchaser World Wide Web site route the name to
4 address map of said purchaser World Wide Web site to said
5 domain name server of the proxy network; and
6 code stored in memory to make the primary domain name
7 server map a fraction of the received mapping requests to

